

FILE 'GENBANK' ENTERED AT 12:07:59 ON 23 APR 2001  
L1 0 S (HUMAN CYCLIN A1 PROMOTER)  
L2 1 S (HUMAN CYCLIN A1)

FILE 'MEDLINE' ENTERED AT 12:10:57 ON 23 APR 2001  
E YANG R/AU  
L3 514 S E3-E22  
L4 7 S L3 AND (CYCLIN A1)  
L5 4 S L4 AND PROMOTER

L5 ANSWER 4 OF 4 MEDLINE  
 AN 1999214202 MEDLINE  
 DN 99214202 PubMed ID: 10196209  
 TI Cloning of the **cyclin A1** genomic structure and  
 characterization of the **promoter** region. GC boxes are essential  
 for cell cycle-regulated transcription of the **cyclin A1**  
 gene.  
 AU Muller C; **Yang R**; Beck-von-Peccoz L; Idos G; Verbeek W; Koeffler  
 H P  
 CS Division of Hematology/Oncology, Cedars-Sinai Research Institute/UCLA  
 School of Medicine, Los Angeles, California 90048, USA..  
 muellererc@CSMC.edu  
 SO JOURNAL OF BIOLOGICAL CHEMISTRY, (1999 Apr 16) 274 (16) 11220-8.  
 Journal code: HIV; 2985121R. ISSN: 0021-9258.  
 CY United States  
 DT Journal; Article; (JOURNAL ARTICLE)  
 LA English  
 FS Priority Journals  
 OS GENBANK-AF124143  
 EM 199905  
 ED Entered STN: 19990601  
 Last Updated on STN: 19990601  
 Entered Medline: 19990517

=> d 15 4 ab

L5 ANSWER 4 OF 4 MEDLINE  
 AB **Cyclin A1** is a recently cloned cyclin with high level  
 expression in meiotic cells in the testis. However, it is also frequently  
 expressed at high levels in acute myeloid leukemia. To elucidate the  
 regulation of **cyclin A1** gene expression, we cloned and  
 analyzed the genomic structure of **cyclin A1**. It  
 consists of 9 exons within 13 kilobase pairs. The TATA-less  
**promoter** initiates transcription from several start sites with the  
 majority of transcripts beginning within a 4-base pair stretch. A  
 construct containing a fragment from -190 to +145 showed the highest  
 transcriptional activity. Transfection of **cyclin A1**  
**promoter** constructs into S2 Drosophila cells demonstrated that Sp1  
 is essential for the activity of the **promoter**. Sp1, as well as  
 Sp3, bound to four GC boxes between nucleotides -130 and -80 as observed  
 by gel shift analysis. Mutations in two or more of the four GC boxes  
 decreased **promoter** activity by >80%. The **promoter** was  
 found to be cell cycle-regulated with highest activities found in late S  
 and G2/M phase. Further analyses suggested that cell cycle regulation was  
 accomplished by periodic repression of the GC boxes in G1 phase. Taken  
 together, our data show that **cyclin A1**  
**promoter** activity critically depends on four GC boxes, and members  
 of the Sp1 family appear to be involved in directing expression of  
**cyclin A1** in both a tissue- and cell cycle-specific  
 manner.

L2 ANSWER 1 OF 1 GENBANK.RTM. COPYRIGHT 2001

LOCUS (LOC): HSU66838 GenBank (R)  
GenBank ACC. NO. (GBN): U66838  
CAS REGISTRY NO. (RN): 184660-15-9  
SEQUENCE LENGTH (SQL): 1743  
MOLECULE TYPE (CI): mRNA; linear  
DIVISION CODE (CI): Primates  
DATE (DATE): 18 Mar 1997  
DEFINITION (DEF): **Human cyclin A1** mRNA,  
complete cds.  
SOURCE: human.  
ORGANISM (ORGN): Homo sapiens  
Eukaryotae; mitochondrial eukaryotes; Metazoa;  
Chordata; Vertebrata; Eutheria; Primates; Catarrhini;  
Hominidae; Homo  
NUCLEIC ACID COUNT (NA): 475 a 399 c 437 g 432 t  
REFERENCE: 1 (bases 1 to 1743)  
AUTHOR (AU): Yang, R.; Morosetti, R.; Koeffler, H.P.  
TITLE (TI): Characterization of a second human cyclin A that is  
highly expressed in testis and in several leukemic  
cell lines  
JOURNAL (SO): Cancer Res., 57 (5), 913-920 (1997)  
OTHER SOURCE (OS): CA 126:262452  
REFERENCE: 2 (bases 1 to 1743)  
AUTHOR (AU): Yang, R.; Morosetti, R.; Koeffler, H.P.  
TITLE (TI): Direct Submission  
JOURNAL (SO): Submitted (13-AUG-1996) Hematology/Oncology,  
Cedars-Sinai Research Institute UCLA School of  
Medicine, 8700 Beverly Blvd., Los Angeles, CA 90048,  
USA

FEATURES (FEAT):

Feature Key	Location	Qualifier
source	1..1743	/organism="Homo sapiens" /chromosome="13" /map="13; between WI-3374 and D13S219"
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